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(54) METHOD AND DEVICE FOR MONITORING VIBRATION OF TURBINE ROTARY PART

(57) Abstract:

PURPOSE: To obtain a long-life device where a blade material and an installation location are not limited by providing a processor for generating a signal through a sensor according to the motion a radioactive nuclide provided at a turbine blade and for extracting vibration information according to the signal.

CONSTITUTION: Radioactive nuclide 20 is produced at a tip part 18 of a turbine blade 14 without any shroud by ion beams from an accelerator, and gamma rays that are not harmful to people are emitted from it and are sensed by a sensor 16 provided at a seal 30. When the nuclide 20 approaches the sensor 16, gamma rays increase. When it moves away from the sensor 16, gamma rays decrease. A signal corresponding to the motion of the nuclide 20 is generated from a sensor by the repetition. The signal is inputted to a processor 26, thus extracting information regarding vibration from the input signal and hence obtaining a monitor device for long-life vibration where it operates regardless of whether the blade is made of magnetic or non-magnetic material and the mounting position cannot be limited particularly.